

ABSTRACT

A single component sag-free liquid ebonite composition having silane coupling agents selected to chemically bond and convert liquid unsaturated rubber to alkoxy functionality, to consume and scavenge moisture originally present in the mixture, and to react with sulfur during vulcanization. The single component liquid ebonite composition is moisture activated and is particularly useful for coating applications in protecting metal from corrosion and chemical attack. In some embodiments, the liquid ebonite composition having a total mass percentage of 100 is mainly composed of liquid unsaturated rubber, sulfur, a vulcanization activator, a vulcanization accelerator, a first silane, a second silane, and a third silane. With the right reactive functional group, the third silane can replace the first or second silane. In some embodiments, the liquid ebonite composition includes a catalyst, carbon black, fillers, additives, and a diluent or solvent.